



03C011

**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

#5

**In re Application of:** van Gemen et al.

**Serial No.:** 10/006,009

**Filed:** December 4, 2001

**For:** TESTING ENDOSYMBIONT  
CELLULAR ORGANELLES AND  
COMPOUNDS IDENTIFIABLE  
THEREWITH

**Examiner:** Unknown

**Group Art Unit:** 1645

**Attorney Docket No.:** 5189US

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SUPPLEMENTAL COMMUNICATION

Commissioner for Patents  
Washington, D.C. 20231

Sir:

Enclosed are drawings that more clearly depict the invention.

Respectfully submitted,

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Registration No. 33,041  
Attorney for Applicants  
TRASKBRITT, PC  
P. O. Box 2550  
Salt Lake City, Utah 84110-2550  
Telephone: (801) 532-1922

Date: March 18, 2002

ACT/bv

10006009.032702

TITLE: TESTING ENDOSYMBIONT  
CELLULAR ORGANELLES AND  
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Inventor: van Gemen et al.

Serial No.: 10/006,009

Docket No.: 2183-5189US

1/22

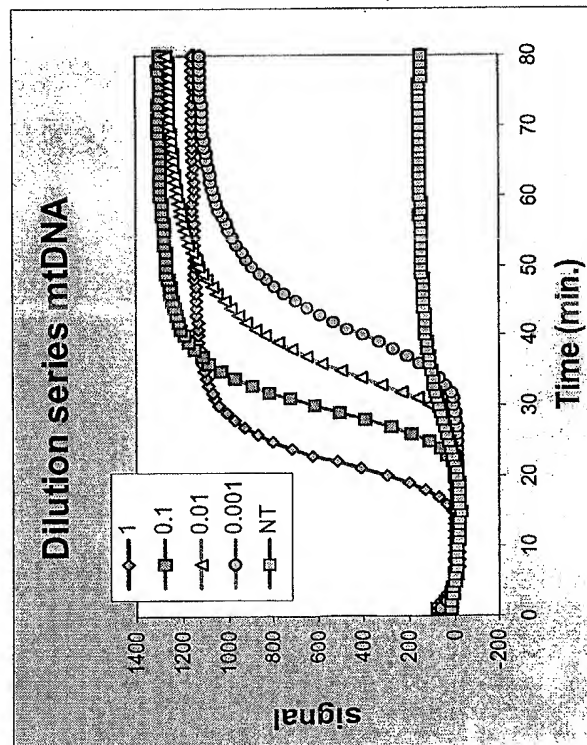
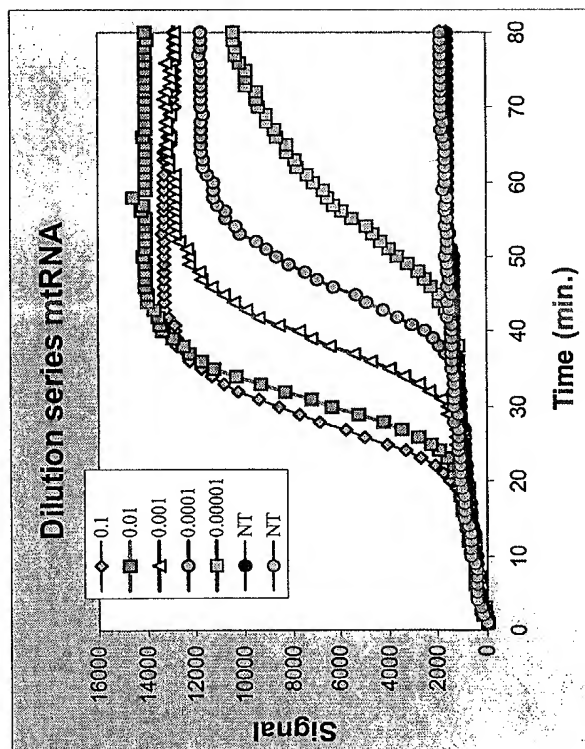
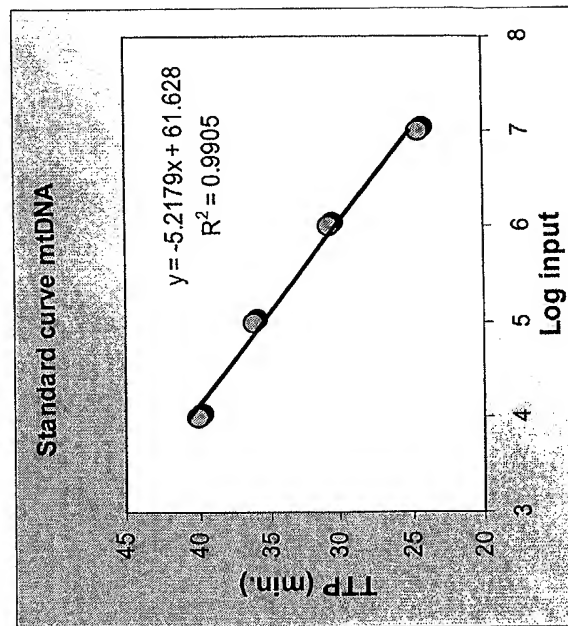
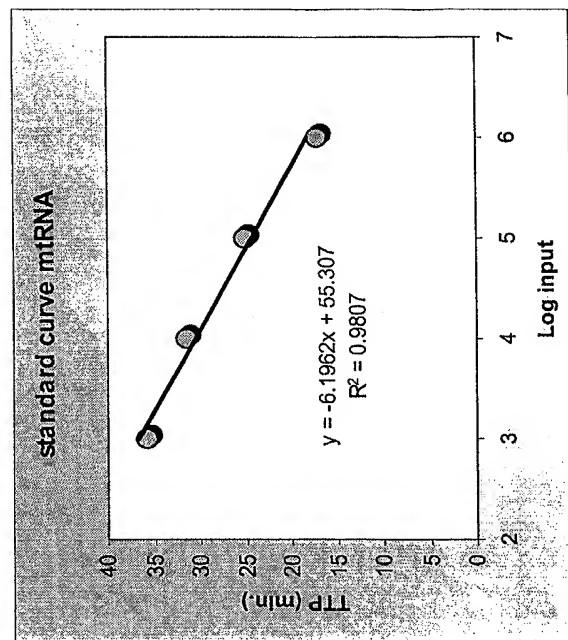


Figure 1

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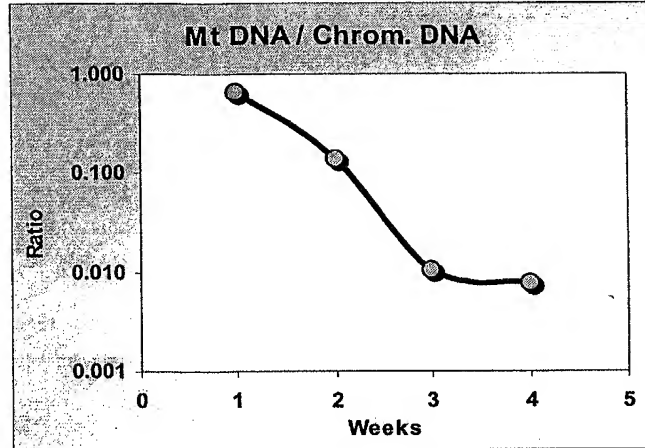


Figure 2

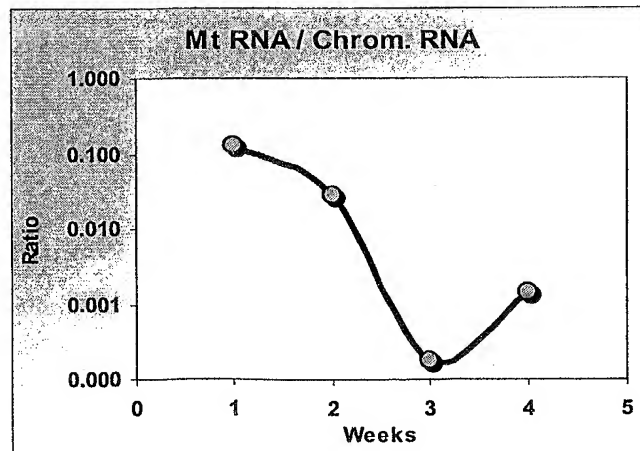


Figure 3

20/22ED-60090001

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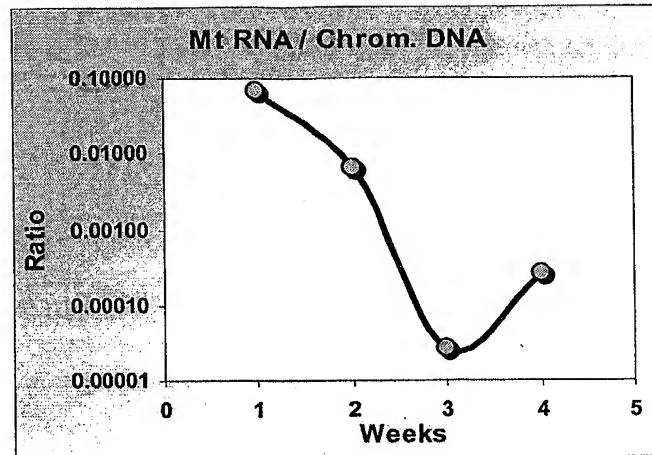


Figure 4

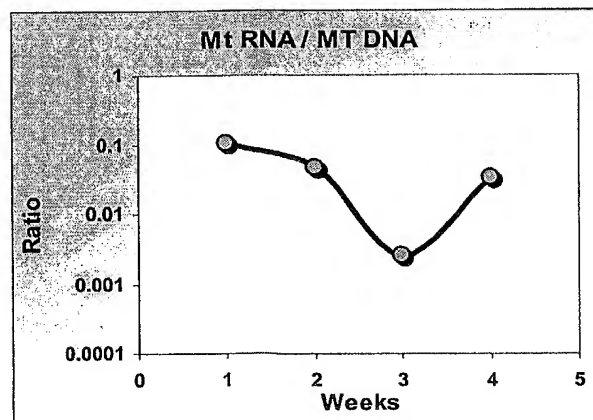


Figure 5

20220160090001

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Inventor: van Gemen et al.

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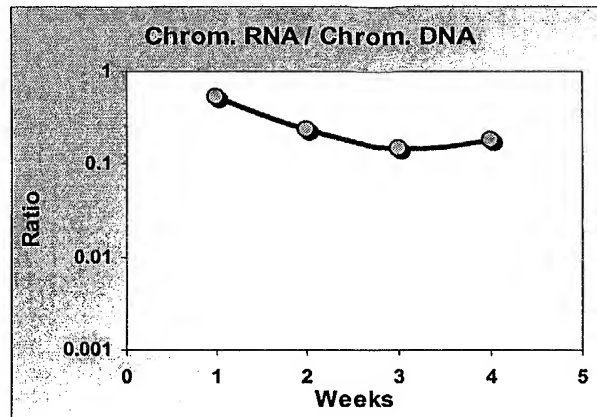


Figure 6

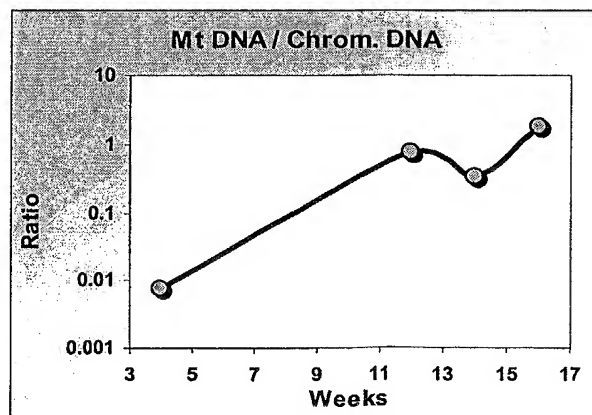


Figure 7

10006009-032702

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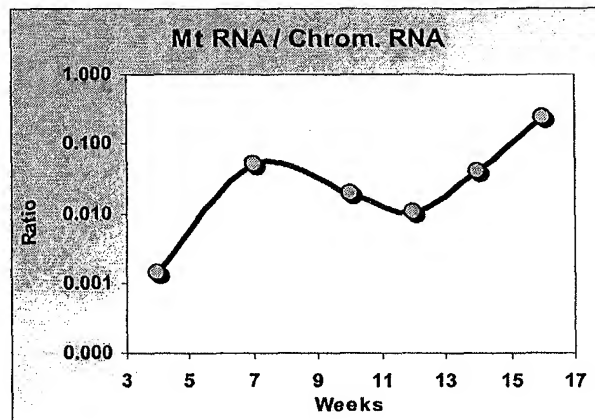


Figure 8

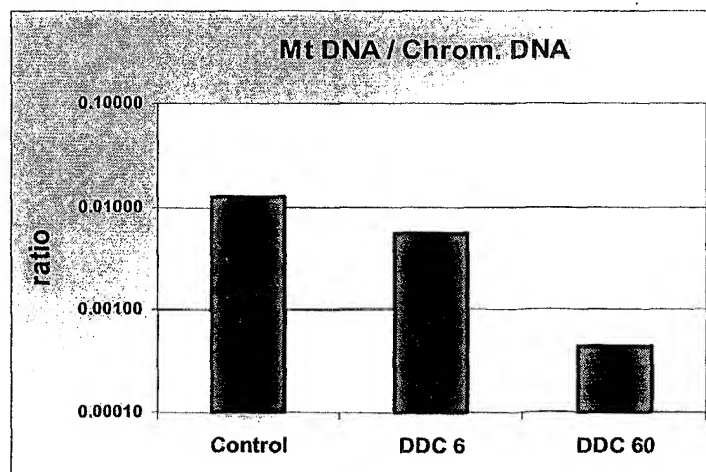


Figure 9

10006009-032702

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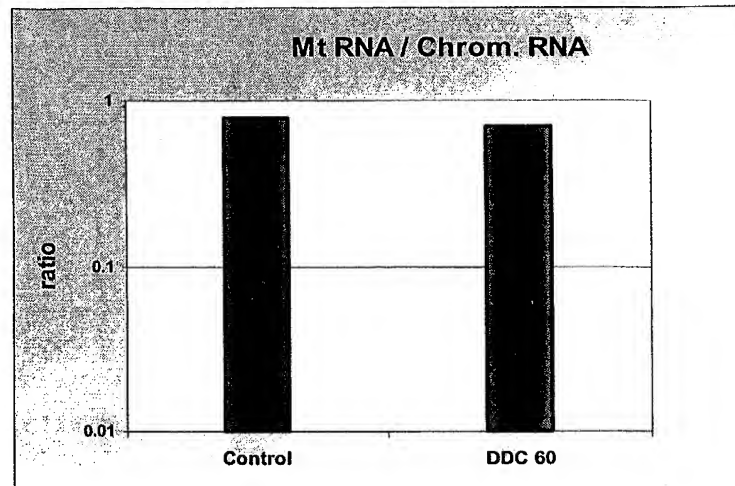


Figure 10

10006009 032702

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Inventor: van Gemen et al.

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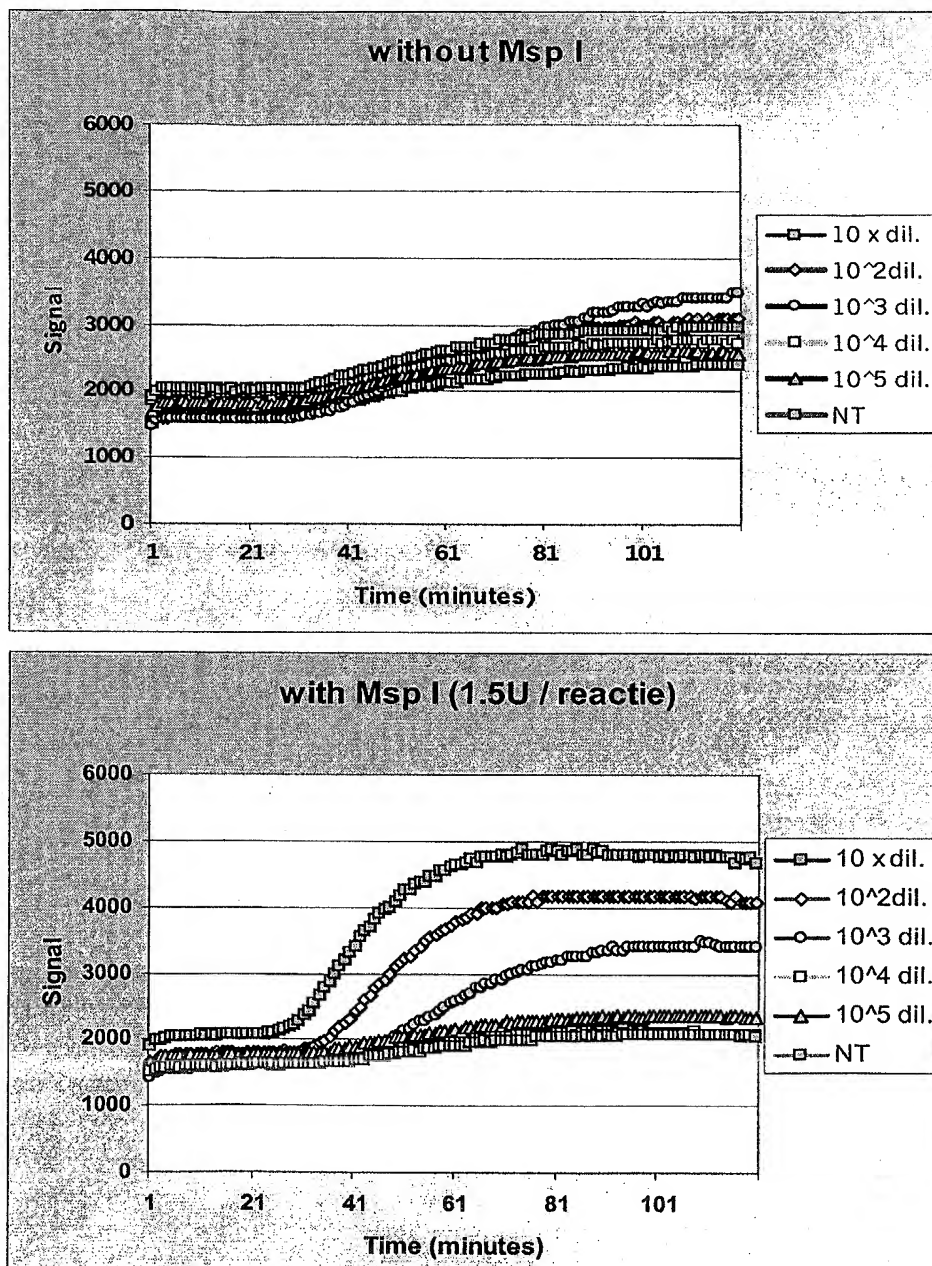


Figure 11.



TITLE: TESTING ENDOSYMBIONT  
CELLULAR ORGANELLES AND  
COMPOUNDS IDENTIFIABLE THEREWITH

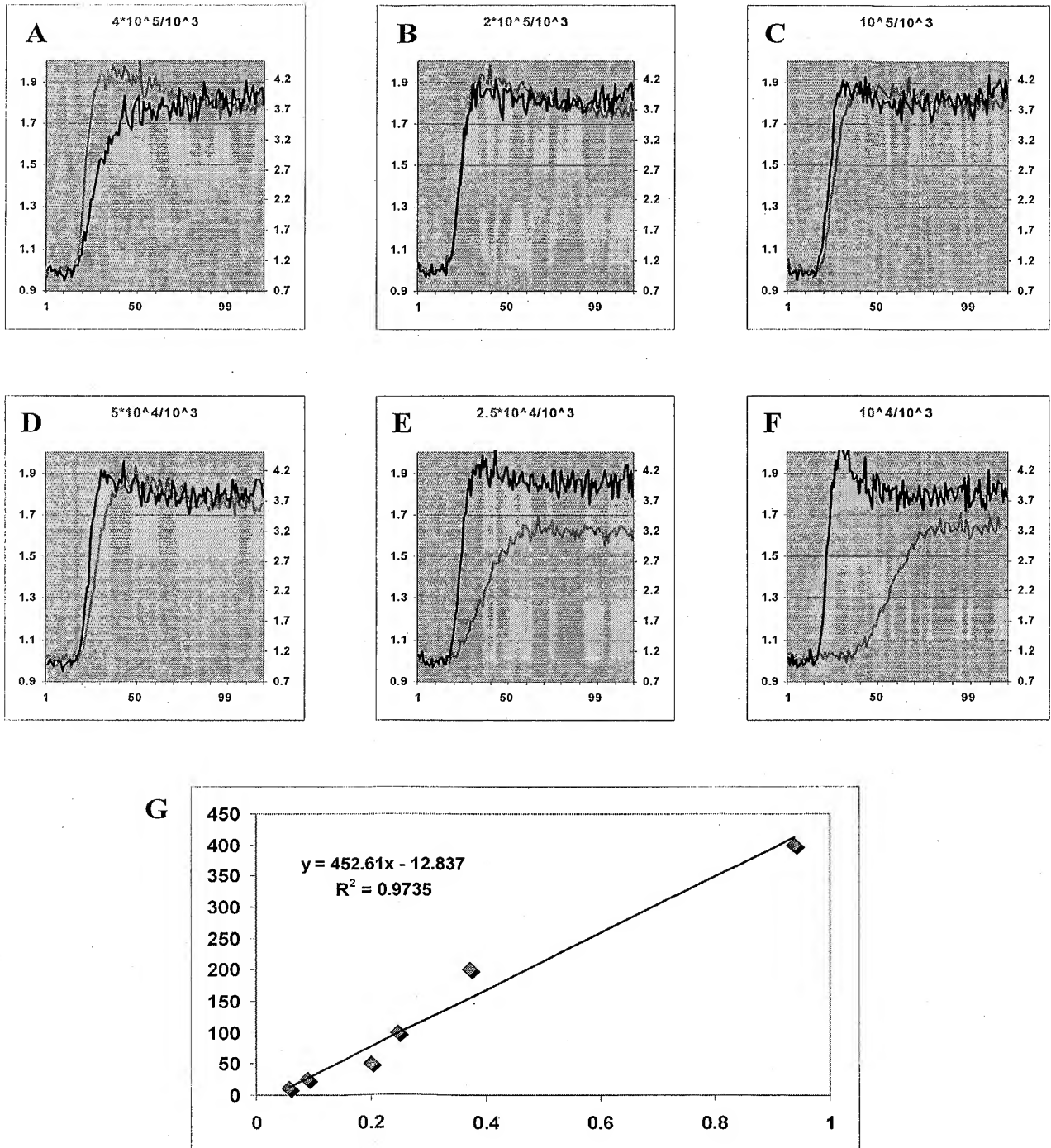
Inventor: van Gemen et al.

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Fig. 12



10006009.032702

TITLE: TESTING ENDOSYMBIONT  
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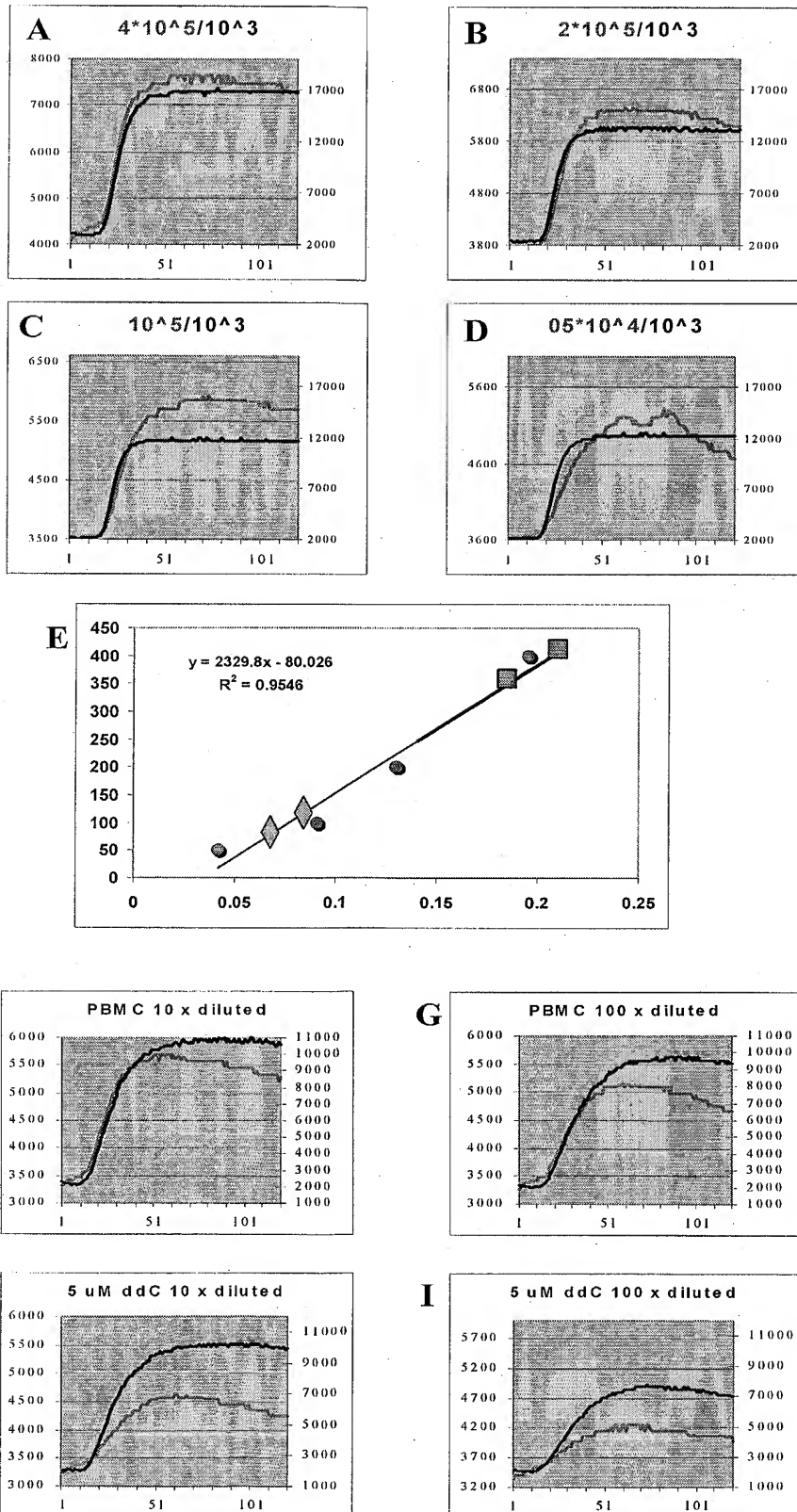
Inventor: van Gemen et al.

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Fig.13



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TITLE: TESTING ENDOSYMBIONT  
CELLULAR ORGANELLES AND  
COMPOUNDS IDENTIFIABLE THEREWITH

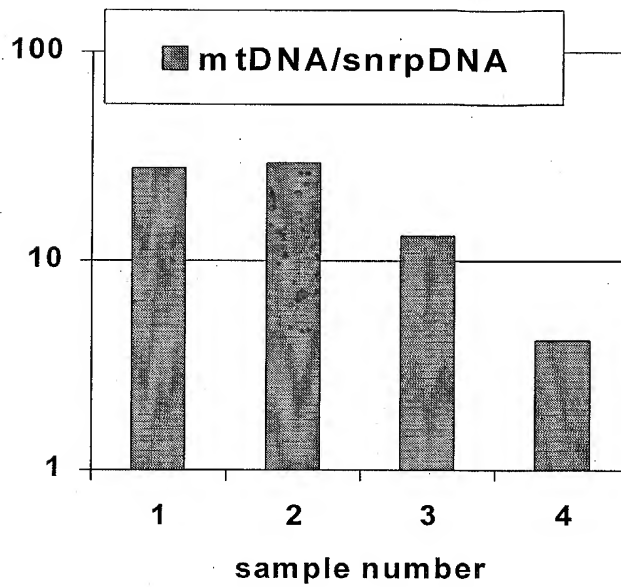
Inventor: van Gemen et al.

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Fig. 14



1006009-032702

202250\* 60090007

# Lactate acidose patient (H0224)

M10620 (H 0224)

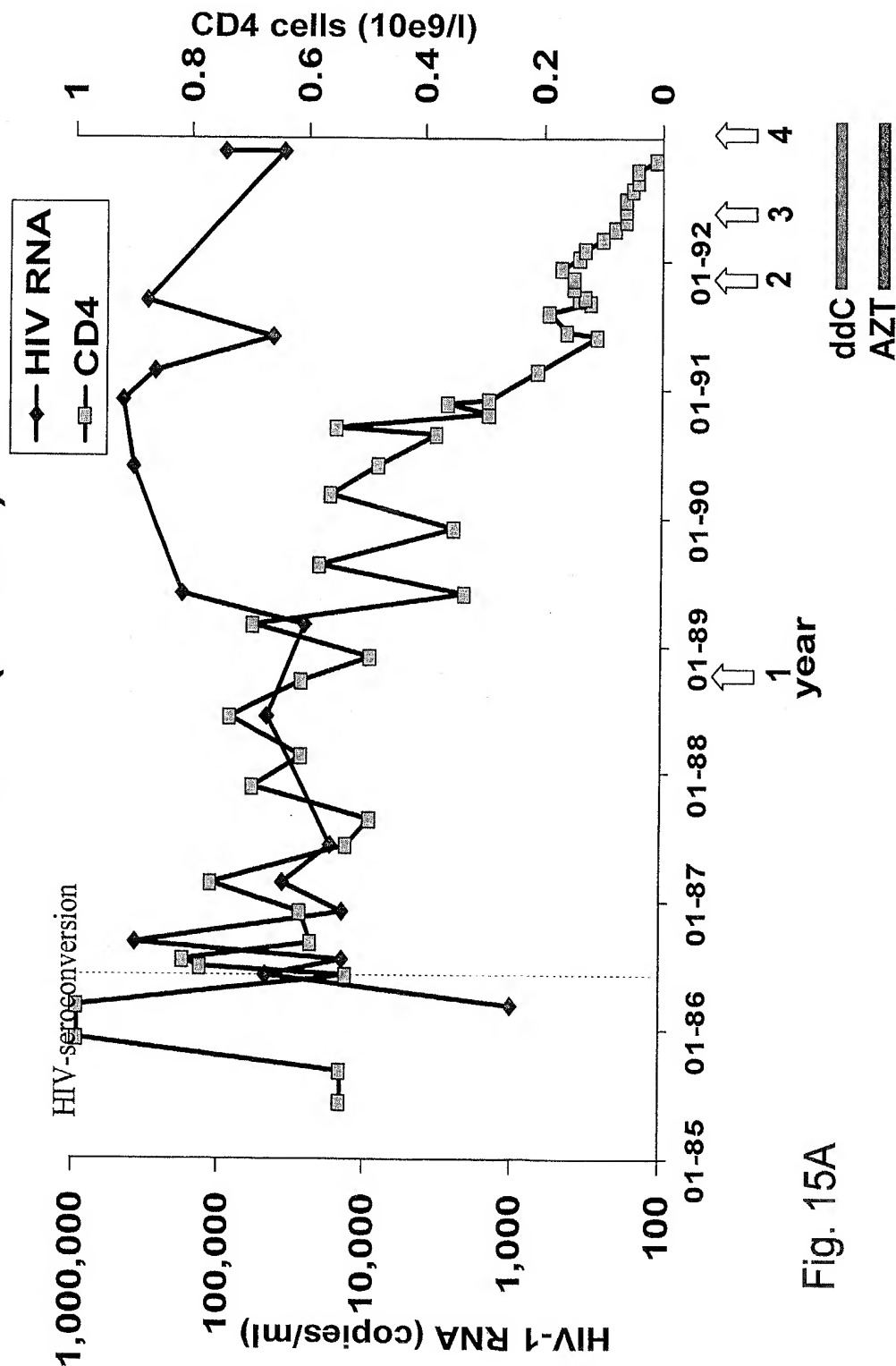


Fig. 15A

202207 6009000T

# Lactate acidose patient (H0224)

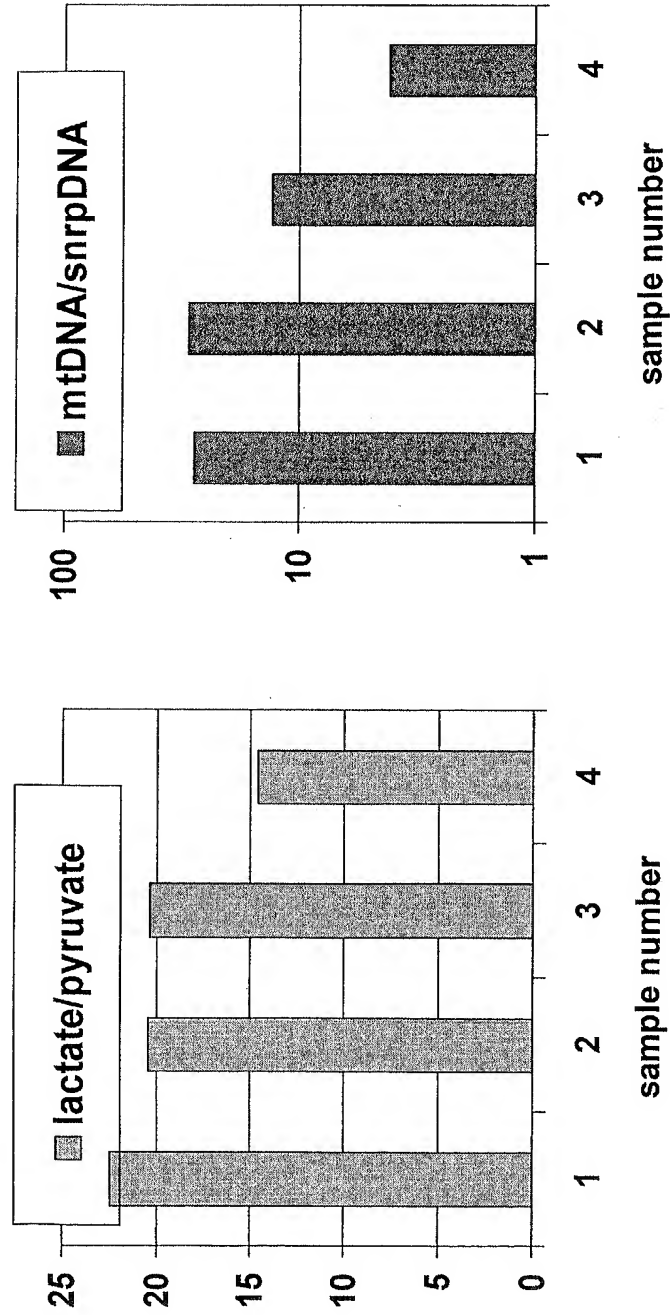


Fig. 15B

TITLE: TESTING ENDOSYMBIONT  
CELLULAR ORGANELLES AND  
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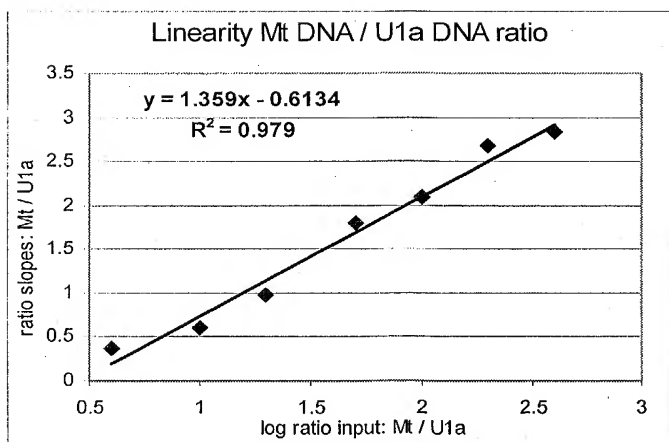
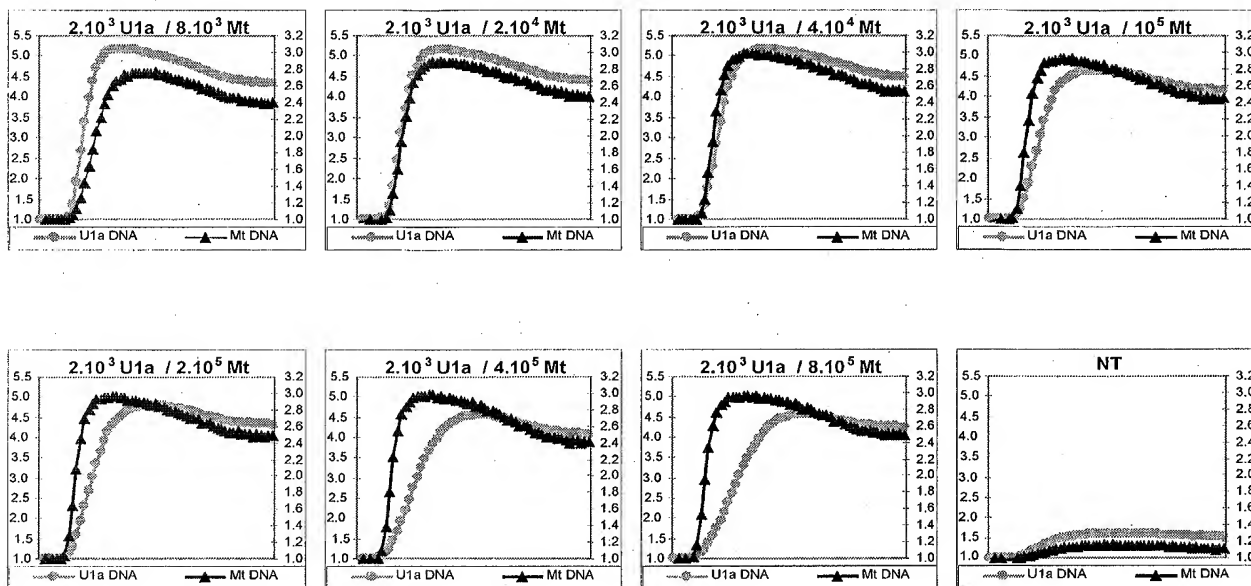
Inventor: van Gemen et al.

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Fig. 16



10006009.032702

TITLE: TESTING ENDOSYMBIONT  
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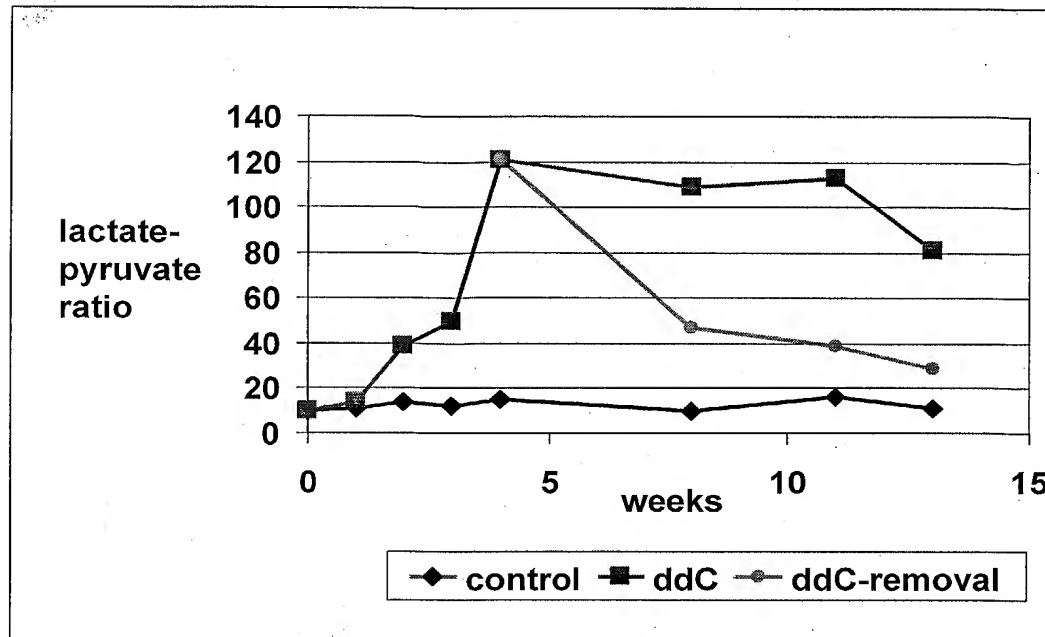


Fig. 17

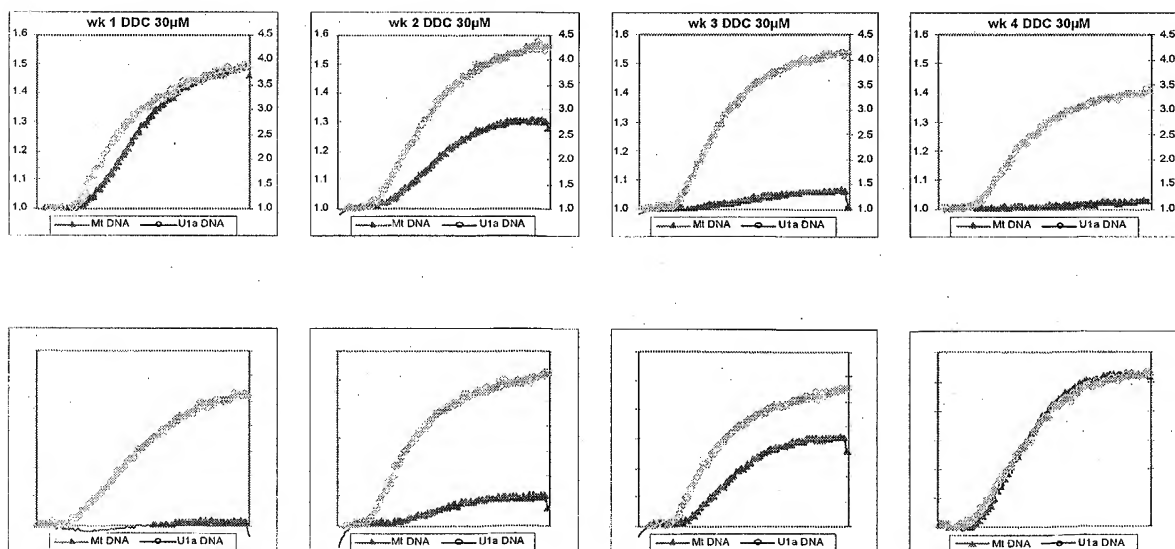


Fig. 18

TITLE: TESTING ENDOSYMBIONT  
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Inventor: van Gemen et al.

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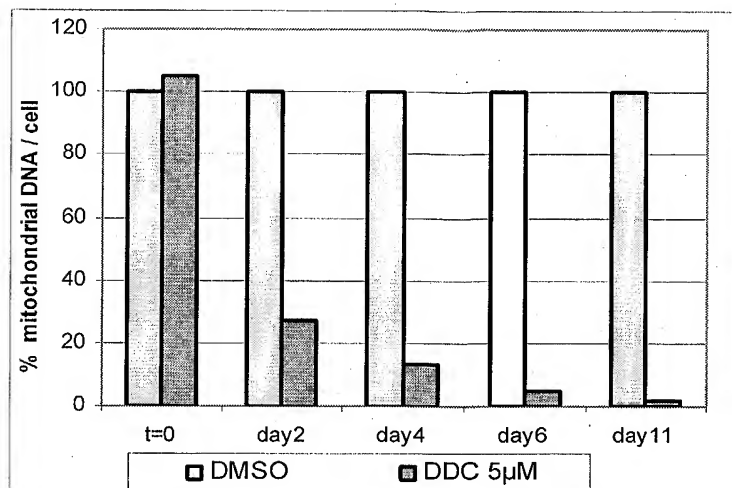


Fig. 19

1006006-0327



20/2ED\* 6009000T

## Significant decrease of mtDNA in PBMC

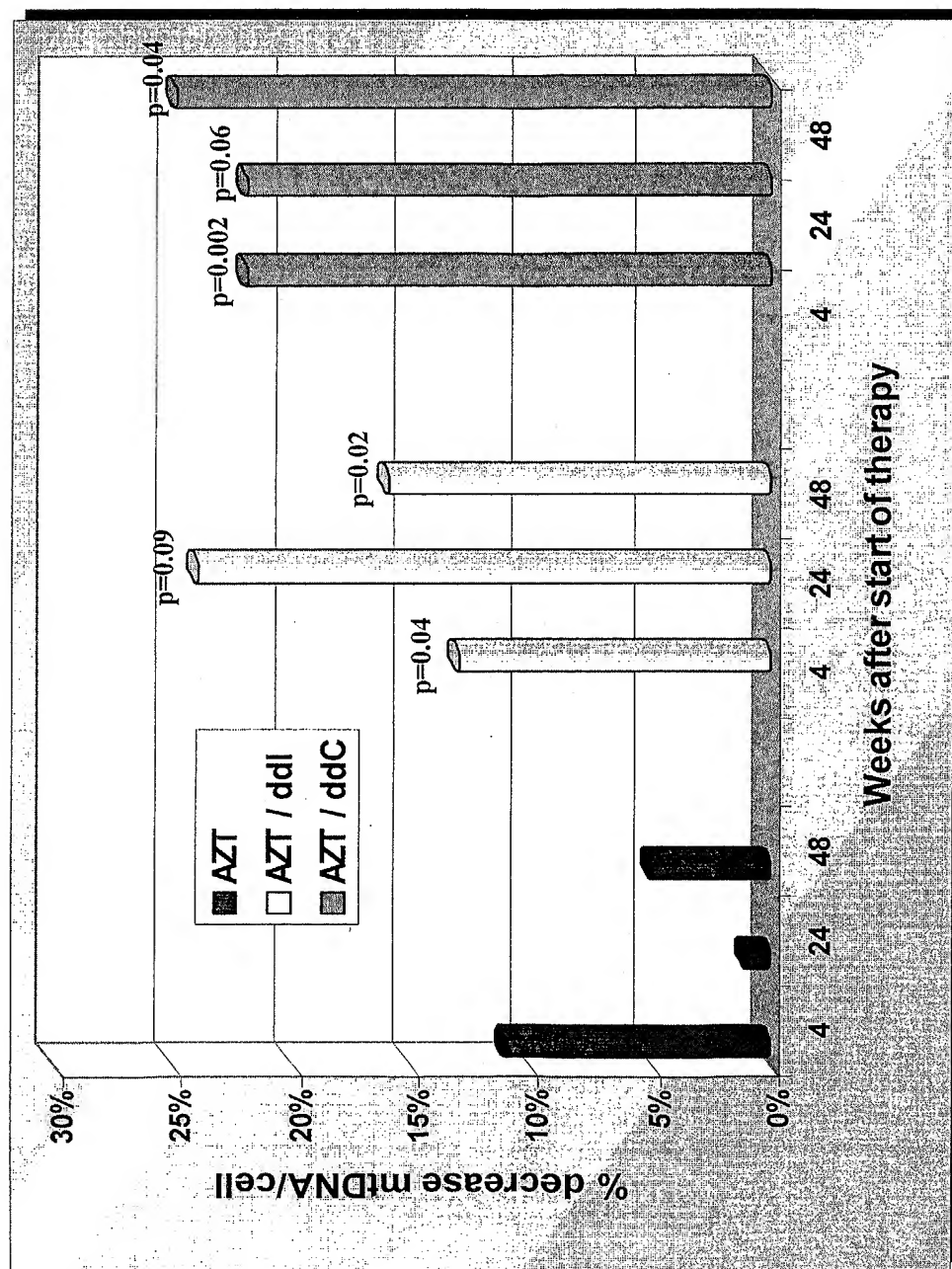
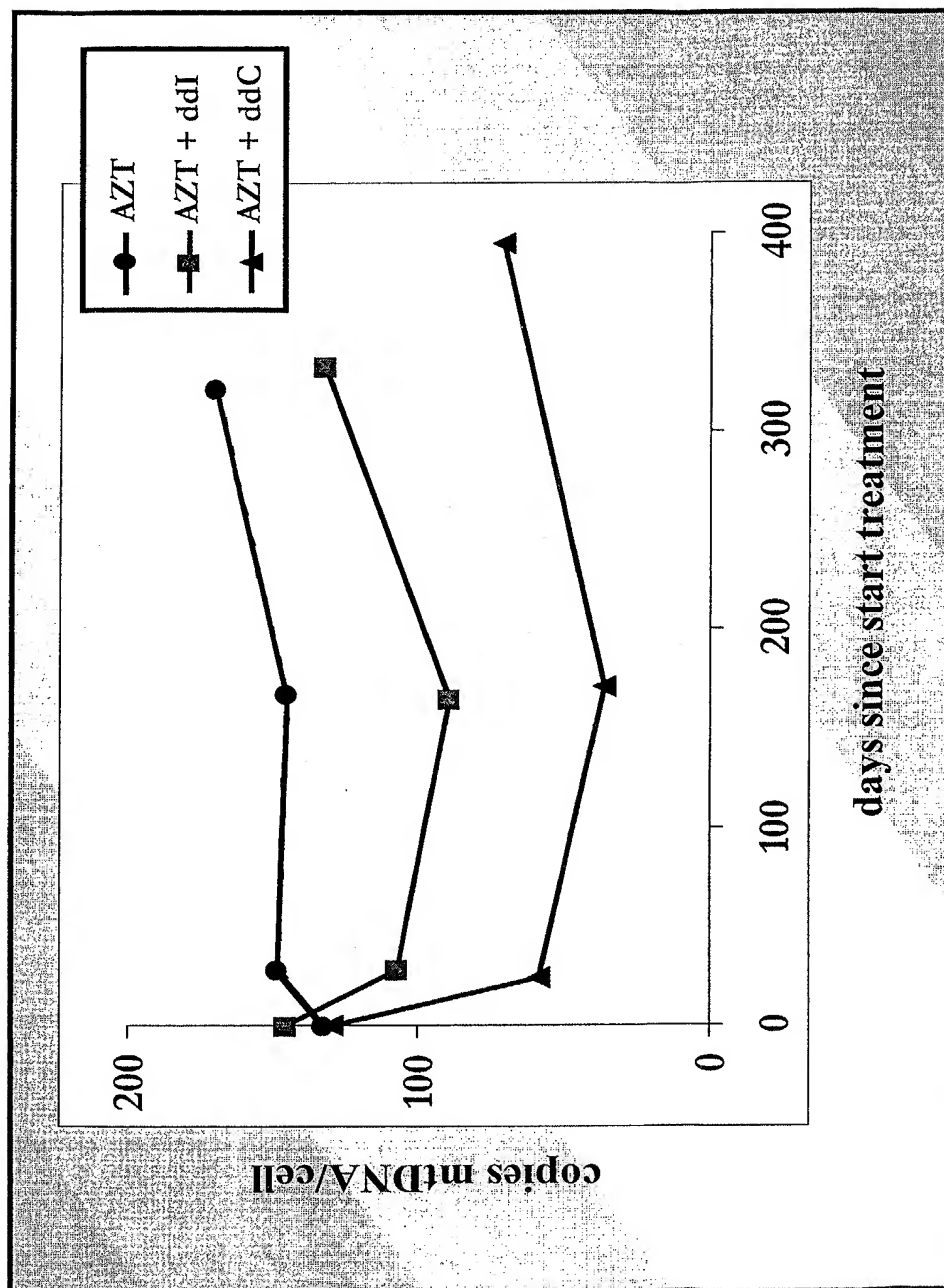


Fig. 20

2022ED-600900T

# Copies mtDNA/cell for three individual patients



20/220" 6009000T

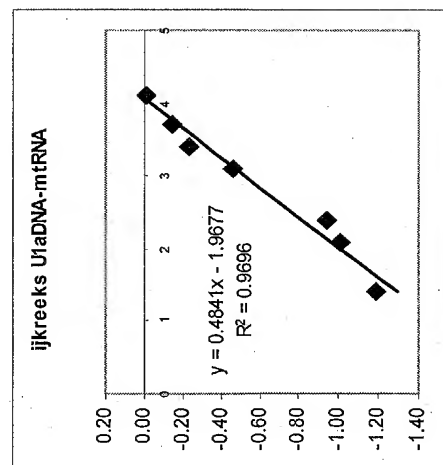
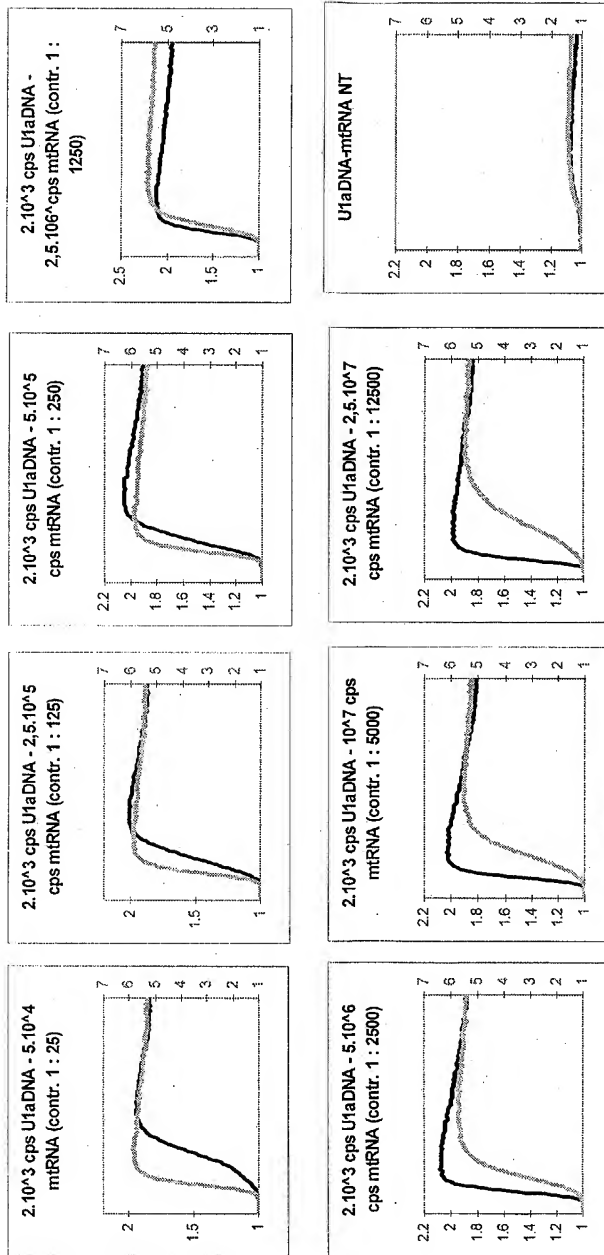
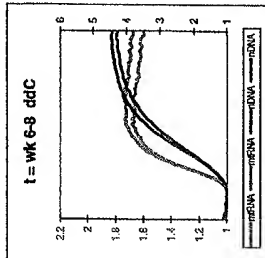


Fig. 22

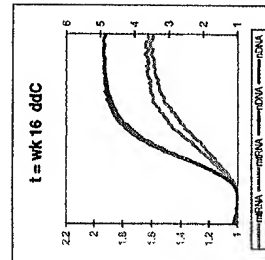
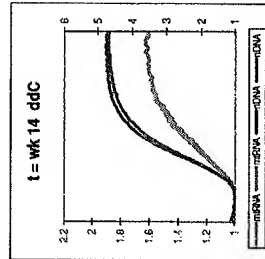
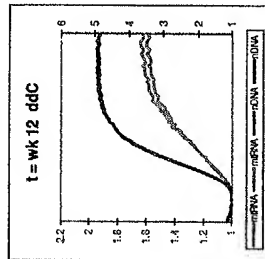
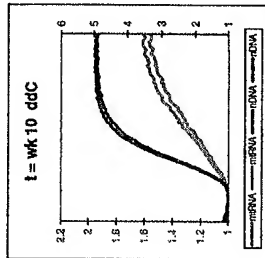
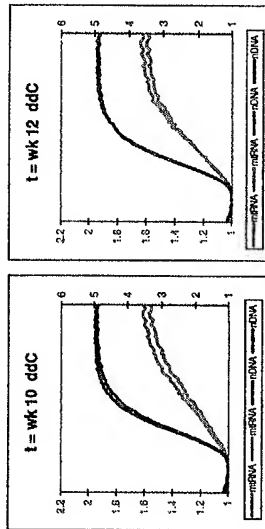
19/22

207220 60090001

Cultured fibroblasts with ddC



mtRNA - nDNA duplex



Continued culture after ddC removal

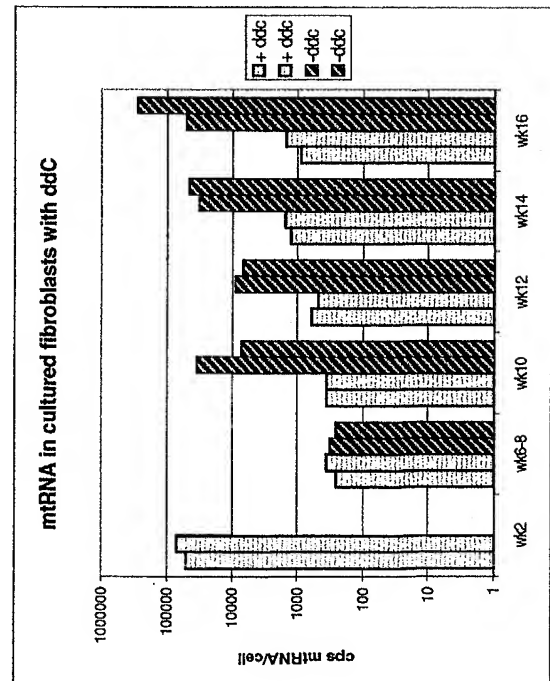
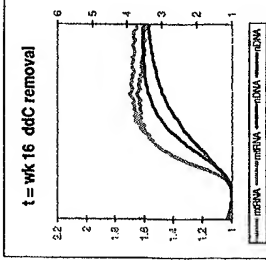
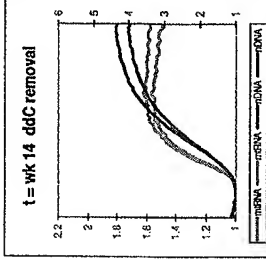
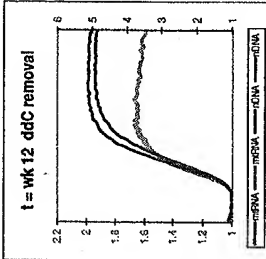
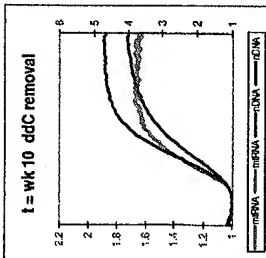
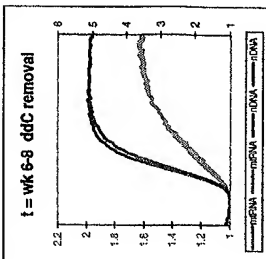


Fig. 23

2022ED\* 600900001

# Adverse effects of antiretroviral therapy

Percentage of patients changing ART because of adverse effects  
(results from the ATHENA-study in the Netherlands)

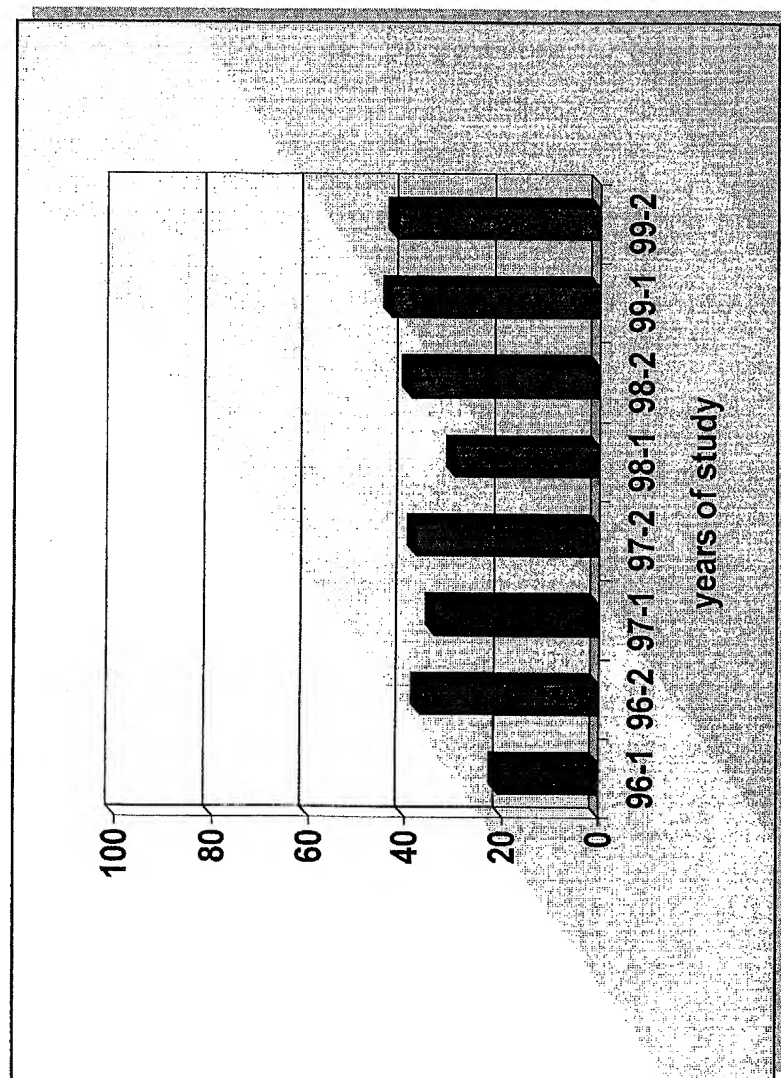


Fig. 24

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# DNA-NASBA amplification

## denaturing

## Reverse transcriptase

## T7 RNA polymerase

isolated cellular DNA

**RNase H  
primer P1**

## Reverse Transcriptase

## Reverse Transcriptase

## T7 RNA polymerase

**primer P2**

**anti-sense  
RNA**

Inventor: van Gemen et al.  
Serial No.: 10/006,009  
Docket No.: 2183-5189US

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Fig. 25

# Mitochondria

## Mitochondria

### *location of primers for NASBA*

Inventor: van Gernen et al.  
Serial No.: 10/006,009

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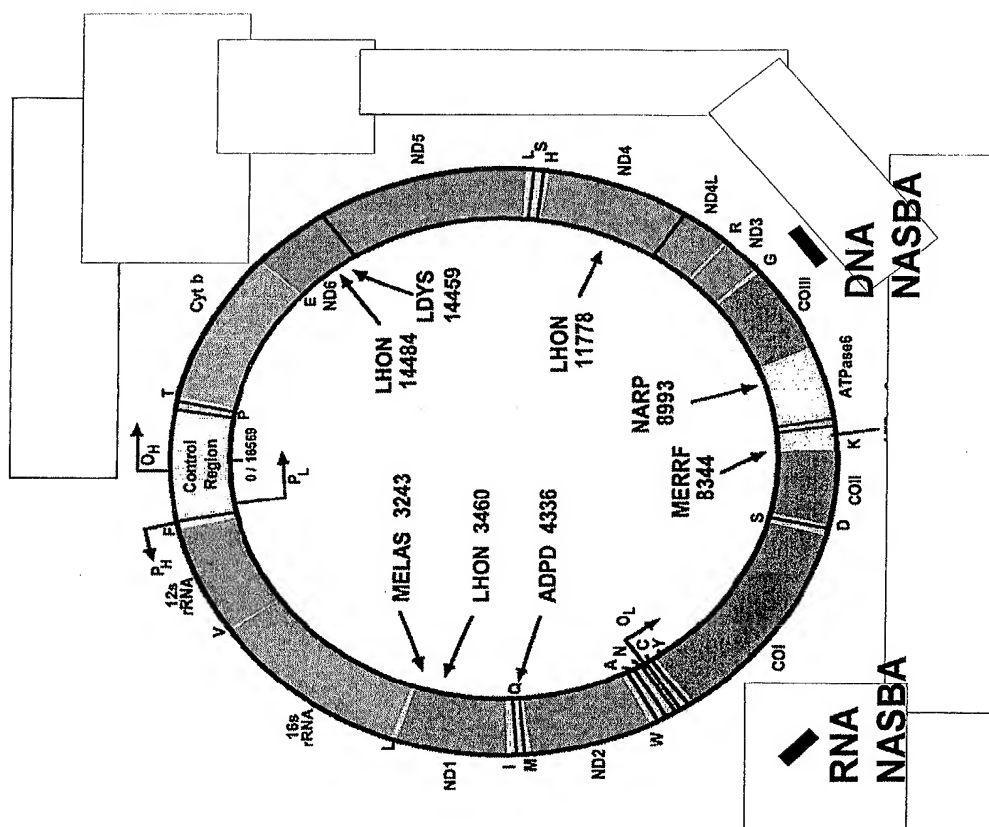


Fig. 26